THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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EDITORIAL NOTES.

We make no apology for the lengthy Extracts from the Judgment on the Dishorning case. The subject is one of the greatest importance to veterinary practitioners who, in every part of the kingdom, are daily called upon to give evidence as to the pain inflicted upon animals by operations or ill-treatment. The Lord Chief Justice and Mr. Justice Hawkins thoroughly discuss the legal significance of the word "cruelty." It is not merely the infliction of pain, even of extreme pain. It is the infliction of pain without reasonable necessity, or to quote the language of another Judge, "unnecessary abuse of an animal." They point out that the amount of pain must be proportionate to the object, even when that object is a reasonable one. They distinctly deny that a mere pecuniary advantage to the owner can be accepted as justifying painful operations. "Spaying," "Castration," and "Docking" are each noticed by the Judges as illustrating their argument, and it may be well to remember that Justice Hawkins says:—"Docking is another painful operation which no doubt may occasionally be justified, but I have a very strong opinion against allowing fashion or the whim of an individual or any number of individuals to afford justification for such painful mutilation and disfigurement."

It will be noticed that both Judges refer to previous cases in which apparently different judgments have been pronounced on the same operation. To us it seems there is nothing in this inconsistent. "Each case" says Justice Hawkins, "in which the question (of cruelty) arises must depend upon a variety of circumstance." These circumstances are laid before the Court in the evidence of witnesses and thus at once we have room for considerable variation in the statement of facts and in the expression of opinion.

In the Norfolk dishorning case the evidence of fourteen veterinary surgeons was all on one side, and the Magistrates allowed that considerable pain and suffering had been caused.

In the Irish case, where the Judges decided for the operation, Lord Chief Justice Morris thought "the pain inflicted was very temporary," and no doubt based his opinion upon the evidence. What this evidence was we do not know, but Mr. Lumley Smith referring to it says:—"Mr. Collins who was examined for the prosecution differed from Messrs. Simcocks, Speering, and Lawlor, veterinary surgeons, and Dr. Dundas."

Surely it is an incorrect inference to draw that any member of our profession has said the operation is not painful, or not very painful.

The article we publish this week on the Causes of Spavin, by Mr. Rogers, is decidedly original. He accepts the usual dictum that Spavin arises as the result of predisposing and exciting causes in individual horses; that it appears in breeds as the result of heredity, and he then goes on to argue that there is a remote cause affecting all horses which accounts for their special liability to ossific changes in the knee and hock. The facts bearing upon the evolution of the horse show that the single digit now possessed by the animal is the result of gradual modifications which may be traced back through fossil ancestors till we come to an animal with four toes. The existing equine limb is therefore the result of modifications due to the absorption of disused parts and the consolidation of others. This modification of the horse is still going on. The bones from the foot to the fetlock have become one column of single bones; from the fetlock to the knee, the process of consolidation is going on towards the condition of unity which will be reached when the small splint bones are inseparable from the metacarpal or metatarsal. Along with this bony change we have also the tendency for the lower row of bones in hock and knee to be reduced in number proportionately to the number of bones with which they have to articulate below. In animals with four or more metacarpals we find a full number of bones in the lower row of the knee to correspond with them; in others with one metatarsal (the *cervulus sclateri*) we find fusion of bones of the hock reducing them to the simpler arrangement of only two in the lower row. In some animals then this consolidation of bones in carpus or tarsus in relation to the number of meta-carpals or tarsals can be demonstrated and in many the numerical relation is indicated. This consolidating process has in the horse proceeded from below upwards, and now reached the region where splints indicate unusual activity in fusion of bones, and where spavin exhibits merely excess in the natural tendency of small bones to consolidate and form a simpler joint. In time the cuneiform bones will become one.

The theory is an ingenious and pretty one and seems to fit in with the facts of comparative anatomy as well as it agrees with pathological observation.

ARTICLES AND CASES.

YEW POISONING.

By B. Freer, M.R.C.V.S.

During my twenty and odd years of practice, I have seen several cases of yew poisoning; but in November, 1887, I had a particularly good opportunity of noticing both the symptoms and post-mortem appearances. In response to an urgent message I attended on the 4th of that month at a farmer's place some miles away, and found, on my arrival, three steers, about twelve months old, dead, and several others presenting symptoms which previous experience lead me to believe had been eating yew. One was standing with his head against the stable wall, when moved he staggered about until he resumed his former position. Others were partly paralysed; whilst two or three that probably had not eaten so much appeared drowsy, more or less tympanitic, and unsteady in their gait. Any doubt about the cause was soon set at rest, as these steers were turned out during the day into the home-field, and on this particular morning had broken into the garden and eaten a quantity of the branches of two yew trees, which stood one on either side of the front door, beside the positive evidence of the yew leaf, etc. in the rumen of the two examined. The mucous membrane was intensely inflamed and peeled off as though it had been scalded.

I have also noticed a condition of the mucous membrane, which I cannot better describe than by the word *tanned*.

Cattle poisoned by lead present very similar symptoms, for I found once, in some calves that died and were suspected of having eaten yew, that they had eaten several old coats of paint off a waggon under which they had been taking shelter from the sun. As far as I remember on examining cattle or sheep after eating yew, I have always found positive evidence in the rumen.

Anyone of the symptoms enumerated might not be diagnostic in a single animal, unless it was known to have eaten yew; but if two or more were attacked in a like manner, I should at once enquire after this very dangerous tree.

THE PART PLAYED BY EVOLUTION ON THE PRODUCTION OF SPLINTS AND SPAVINS.

By H. G. Rogers, M.R.C.V.S.

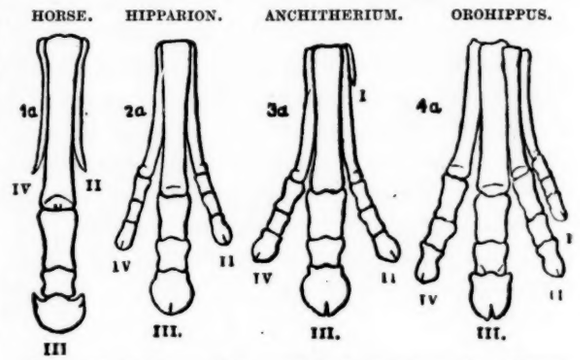
On the Intrinsic Causes of Splints and Spavins.

That predisposing as well as exciting causes have an effect in the production of splints and spavins is made evident by many facts. Sprains and concussion the result of work are generally thought to be the causes of these common diseases of the horse. All horses subjected to these conditions do not develop splints and spavins. Horses that are not worked seldom show these bony changes. Thus we are led to believe that some animals have an excessive intrinsic tendency to anchylosis of the bones about the knee and hock. The usual explanation of the intrinsic cause of spavin, is, that a form of hock from its conformation, is specially liable to the disease. If such were true a more unanimous opinion should be held by veterinary surgeons as to the type of hock that is favourable to the formation of spavin.

The internal or predisposing causes affect individual horses. The experience of breeders is that they affect whole families and are in fact hereditary. May we not go a step further back than this, and consider whether there are not conditions in the horse as a species which tend to ossific changes in the tarsus and carpus?

Genealogy of the Horse.

In studying the changes that have taken place in the bones of the horse as a species, it is obvious that such a study should have its beginning in a consideration of the earliest remains of the equine family. There are few families of animals that have such a complete representation in the fossil collections as the horse. Three typical animals will be selected. By examining the fossil remains of these animals, that were the ancestors of the horse of to-day, it is noticed that the more remote the geological period in which they are found, the greater number of toes these animals possessed.



The Orohippus that existed during the Eocene, the earliest of the tertiary epoch, possessed four toes. The third which corresponds to the third of the typical manus is the largest.

The Anchitherium lived during Miocene or middle tertiary period. This animal had three toes complete in having all the necessary segments. The third was the largest and more developed than in the Orohippus. The first was present as a rudiment.

The Hipparion the more immediate ancestor of the horse lived during the last of the tertiary epoch, viz:—the Pliocene period. It had three complete toes, the third greatly developed, the second and fourth much smaller, the first had quite disappeared.

The Horse has only the third toe complete, the second and fourth are rudimentary.

It is seen that certain conditions have acted upon the earlier animals and gradually evolved a race, with but one functional toe. This change can be traced through the tertiary epoch up to the quarter-

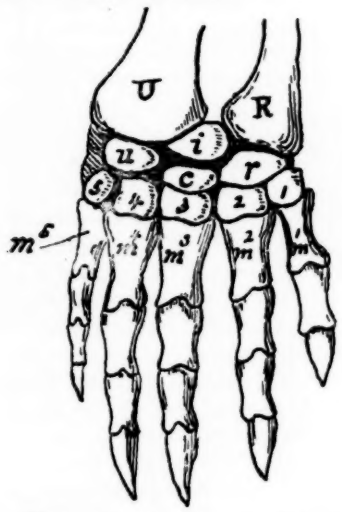
nary deposits, in which fossil remains are found of the horse proper.

If we now examine the foot, knee, and hock of the existing hoofed animals, note the different conditions of development of the several bones and compare such differences, we shall see how the changes that have taken place bear upon the analagous parts of the horse.

To carry out this plan great assistance will be given by adopting a typical fore and hind foot as a standard of comparison. One nomenclature is absolutely necessary to prevent confusion. The names given to the different bones by systematic anatomists will be used.

Typical Manus.

Professor Flower gives as a typical manus that of the Water Tortoise.



Right Manus of the Water Tortise.

U Ulna. *R* Radius.

u Ulnare.

i Intermedium.

r Radiale.

c Centrum.

1—5 Distal row of Carpal Bones.

m 1—5 Five Metacarpals.

This illustration explains itself as far as its present purpose is required.

It will be seen that the bones of the carpus are arranged in a proximal and a distal row. Each distal bone articulates with a metacarpal, and each metacarpal supports a phalanx consisting of three segments, except the first, which is made up of two only.

The Carpo-metacarpal and Tarso-metatarsal Articulation.

	KNEE	HOCK	METACARPALS OR METATARSALS
Tapir	8	7	3 — 4
Pig	6	7	4
Rhinoceros	8	7	3
Horse	7	6	1
Camel	7	6	1
Pecora, Ox, Sheep, &c.	6	5	1
Sonce Deer (Cervulus)	—	4	1

The above table of knee, hock, metacarpal, and metatarsal bones, shows a relation in point of number between the several parts.

The manus of the water tortoise has a distal row of five bones, each articulating with its corresponding digit. It is easy to understand that with five toes, such a complex joint is required. As digits became fused, or disappeared, fewer distal carpal bones would be necessary. Many examples of this condition exist. There is also a relation between the size of the metacarpal and that of the distal carpal bone that it articulates with. In the evolution of the horse from the hipparion, the first parts to have become suppressed would have been the second and fourth phalanges. The function of the corresponding metacarpals would have diminished and they would have become rudimentary. This process would also have affected the distal row of carpal borres. The course of development and retrogression probably acted at the same time, and its influence affected the phalanges, metarcarpals, and carpal bones synchronously. Fusion or suppression of the several elements would undoubtedly have proceeded from below upwards in such an animal as the horse. A peculiar condition existed in the hipparion, a semi-rudimentary metacarpal with a very large nodule inferiorly. This nodule supported the three phalangeal segments. The nodule remains in the horse and probably represents the inferior epiphysis. The three parts constituting the phalanx have been suppressed or fused. This plainly shows that the reduction in number of bones proceeded from below upwards.

The unciform of the tapir is a large bone, it articulates with two metacarpals, the fourth and fifth. In the rhinoceros the same bone is large and articulates with one metacarpal and a rudiment. In the horse it is larger than the trapezoid and it articulates with the outer or fourth metacarpal, which is markedly larger than the inner or second. The inference is that it represents two bones, the fourth and fifth of the distal row of the typical manus.

The trapezium of the tapir and rhinoceros is small and does not respond to a metacarpal. It probably articulated with the first but is now retrograding towards suppression or fusion with the trapezoid. The trapezium of the horse has disappeared, and the trapezoid is the smallest of the distal row. The metacarpal on the inside is also more rudimentary than on the outside. (The trapezium of Percival is the pisiform, a sesamoid bone.) The magnum has most likely kept pace in development with the third metacarpal. It is relatively a larger bone in the horse than in the rhinoceros, and in the rhinoceros than in the tapir.

The conjoined third and fourth metacarpals of the camel articulate with a surface, nearly the whole of which is formed by two bones, the magnum and unciform. The trapezoid is small and presumably in a condition to become fused or suppressed.

In the ox, sheep, and deer, the united third and fourth metacarpals articulate with two bones only, the magnum and unciform. The trapezoid has united with the magnum.

"Professor Goubaux, in 1865 exhibited specimens, which go to prove that the two bones of the lower row in the carpus of Ruminants, the internal really represents the two, so that these animals actually have seven carpal bones like the horse." (Chauveau.)

Variation.

The very great amount of variation of the manus and pes becomes manifest when an examination and comparison is made of the fossil remains of the progenitors of the horse, and the existing types of the different hoofed animals.

The tendency of the individual organism is to continually adapt itself to its surroundings. Slight variations, if of a beneficial nature to the individual, are preserved, natural selection fixes, and by inheritance transmits all such alterations until they become a character of the family.

Darwin explains by the law that "natural selection is continually trying to economise every part of the organism" those conditions where one part is greatly developed by use and another and adjoining part is decreased by disuse.

If it be granted that the ancestors of the hoofed animals possessed five equally developed toes, it can be demonstrated by the above principles how the horse was evolved from such a progenitor. Take such an animal varied to the extent of having one of its five toes lengthened. If such an alteration was beneficial, the effects of increased use of the lengthened digit, acting through time, would gradually increase the size and strength of the longer toe. At the same time the decreased function of the other four digits would bring about a retrograde tendency in them towards a rudimentary state. A circumstance must be remembered that has an important bearing, namely, that the hoofed animals are digitigrade.

The Horse Descended from an Animal with three or more toes.

The completeness of the fossil remains of the ancestors of the horse is strong evidence of origin of the existing animal. In the Guide to the departments of Geology and Palæontology in the British Museum, it is stated that more than thirty distinct equine species have been found fossil in North America, ranging from Eohippus in the lowest Eocene, to Equus in the Quarternary deposits. The genus Protohippus of the lower Pliocene equalled the ass in size. It had three toes on each foot, but only the middle one, corresponding to the single toe of the horse, reached the ground. This genus resembles most nearly the Hipparion of Europe, whilst the Pliohippus had lost the small hooflets, and was in other respects the most equine. Only in the upper Pliocene does the true Equus appear and completes the genealogy of the Horse."

Professor Flower states that "Various gradational stages between the complete tridactyle foot of the rhinoceros and the monadactyle foot of the horse, are met with in extinct species of the Perissodactyla."

Of existing hoofed animals we have:—The Pig, with four complete toes; the Tapir, with four on the front limb and three on the hind; the Rhinoceros, with three complete and one rudimentary toes; the Camel and Deer, with two digits, and the metacarpus formed by the confluent, third and fourth metacarpal bones; and lastly the Horse, with one perfect and two rudimentary toes.

Coalescing of Bones.

Well marked examples of the result of this process are seen in the conjoined condition of the third and fourth metacarpals of the camel and deer, the confluent state of the trapezoid and magnum of the knee of the sheep and ox, and the cuboid and navicular and second and third cuneiforms of the same animals. The second and third cuneiforms together with the cuboid and navicular form one bone in some deer. In the horse the second and third cuneiform bones are united, but sometimes found separate.

Homologous parts tend to cohere, and the laws that govern the use and disuse of parts must be important in their bearing on the fusion of bones.

The most favourable conditions that we may conceive for the coalescing of bones—is where one functionally active is in close apposition with one that is rudimentary. An example of this state is the condition of the unciform and rudimentary fifth toe in the manus of the rhinoceros. Another state that appears to be favourable is—where two bones are in contact—one progressing towards greater development, and the other retrogressing to a rudimentary condition as seen in the metacarpus of the horse. Again, where two bones of equal development are in close contact, but whose function does not tend to much motion between them, such a state seems favourable to union. Example: the third and fourth metacarpals of the deer, camel and ox. In the fœtal ox the bones are separate.

Many instances of normal union of bony parts are seen, such as the knitting together of the bones of the skull, and the anchylosed condition of the ulna and radius of the horse.

There seems little doubt, that under certain conditions, bones tend to become conjoined. Such tendency appears to gather intensity through time, until ultimately two or more bony elements become transformed into one.

Taking the above statements, together with the facts that motion is very limited between the metacarpus and the lower knee bones, and that the second and fourth toes have disappeared up to the metacarpus it would scarcely appear rash to advance the theory, that there is a peculiar focus of tendency to anchylosis about the distal row of knee bones and the metacarp of the horse.

Darwin states that: "In the vertebrata the front and hind limbs are homologous and tend to vary in the same manner." The conditions found in the articulation just considered, appear in counterpart when the corresponding articulation of the hind limb is examined.

The relation in point of number, between the functional metartarsals and the distal row of hock bones is even more marked than with the manus. The cervulus sclateri has a tarsus composed of four bones only.

The relation of size between the distal hock bones and the metatarsals with which they articulate is very apparent in the tapir, rhinoceros, and horse. The outer rudimentary metatarsal always has a larger distal bone to articulate with than the inner metatarsal. In the pig, the relation of size is well

shown between the third and fourth metatarsals and the corresponding tarsal bones. In the deer, where the third and fourth metatarsals have coalesced, union between the cuboid and navicular, and second and third cuneiforms has followed. In the cervulus sclateri, the metatarsal bone practically responds to but one bone, the inner cuneiform being exceedingly small. With the horse, the motion between the distal hock bones on the inside of the joint and the metatarsals, is more limited than in the knee. The inner and middle cuneiforms have united. From a general examination of the bony parts of the hock, and their relations to one another, there certainly appears to be a condition favourable for colasescence of the cuneiforms and navicular.

An hypothesis relating to the horses' hock may be advanced, namely, that there is an intrinsic tendency to ossific union between the small bones forming the distal row, intensified towards the inner side.

Part II.

It is claimed in this paper—That the intrinsic cause of splint and spavin is a peculiar tendency, possessed by the horse as a species, to anchylosis in the regions affected by each of these diseases. It has been endeavoured to set forth how this tendency was evolved. It will now be attempted to be shown that the facts known relating to these bony changes accurately fit in with the theory propounded.

It may first be noticed that there is a general resemblance between splint and spavin—they are each considered hereditary. They appear about the same period of the animal's life. The exciting causes are similar. The position they occupy in the limb is important in each condition, and they appear at homologous parts of fore and hind limb.

It is now generally believed by the veterinary profession, that these diseases are hereditary. An hereditary disease is transmitted from parent to offspring, but frequently lies dormant in the progeny until an exciting cause developes it. In other words, the tendency, not the disease, is transmitted. The importance of understanding that hereditary tendency is quite as significant as exciting cause, is manifest. Two foals may inherit an equal tendency to spavin, one may grow up free from the disease, but the other from meeting with an exciting cause may develop an anchylosed hock joint.

Thus it is seen, that in the production of these bone diseases we have extrinsic conditions as exciting cause acting upon predisposition in the animal as intrinsic cause. All horses do not develop splints and spavins. To account for which, it may be advanced that all do not meet with exciting causes, and all do not possess the intrinsic tendency in the same degree.

The natural laws relating to development have been greatly overlooked in their bearing upon the production of these bony changes. It is only now that particular attention is being paid to the hereditary diseases of the horse, that they are being properly understood. By one of these laws it can be shown that the peculiar tendency to anchylosis about the seat of splint and spavin, will be at its greatest intensity about the period when the animal is put to work. The law referred to is that variations that appear in the parent re-appear in the offspring at a corresponding period, or slightly earlier.

"Whatever influence long-continued use or disuse may have had in modifying the limbs or other parts of any species, this will chiefly or solely have affected it when nearly mature, when it was compelled to use its full powers to gain its own living, and the effects thus produced will have been transmitted to the offspring at a corresponding nearly mature age. Thus the young will not be modified, or will be modified only in a slight degree through the effects of the increased use or dis-use of parts." —*Darwin.*

The above principles teach that as the function of a toe was diminished, the decrease in size would be most marked at a somewhat late period of life in the individual. The decreased size would be manifested in the offspring at a corresponding period, or slightly earlier. The function of the digit being suppressed, modification of the metacarpal and knee bones would follow at corresponding periods. When a condition arrived favourable to fusion or suppression of superfluous bones, a tendency to fusion or suppression would be inherited also at a corresponding period in the parent and offspring. Such a period in the horse seems to exist at the age of from four to five years.

At this age the animal is completing its growth and dentition, and the several parts of the separate bony structures are becoming firmly knitted together. At this time a tendency to anchylosis about the knee and hock would be at its greatest intensity. At from four to five, the horse is usually put to work, and meets with conditions most likely to act as exciting causes. Thus it is seen that three separate conditions exist at the same time, and each favourable for the production of splint and spavin.

With regard to the tendency to anchylosis at a particular part of a limb, it may be asked what is its influence in the production of splint and spavin? Two facts present themselves that have a bearing upon this question. With horses that strike their fore fetlocks from defective action, bony enlargements seldom develop at the point struck, but if the impact is near the knee as with speedy cutting, the formation of an exostosis is the rule. In the hind limb brushing also is unattended with bony enlargement, but if a blow is received about the hock the resulting ostitis generally leaves an enlargement. This latter state is often seen on the outer aspect of the hock with horses kept in bale stables.

The wrist and hock of the dog is not specially liable to sprain, and is seldom affected with exostoses. The digits, however, are frequently sprained or fractured, and exostosis takes place. The explanation is that no tendency to union of bones exists. In the horse, fusion of bones has taken place as far up the leg as the tarsus and carpus. The tendency to further fusion remains at these joints and the bony differences marking the subungula are still tending to simplification of the number of bones and the better adaptability of the animal to its surroundings and the changes which have already taken place lower down.

"Working oxen, and those that have been driven long journeys, are liable to sprain and particularly of the fetlock joint. The division of the lower part of the cannon or shank bone, in order that it may articulate with the two pasterns into which the leg is divided renders this joint particularly weak and susceptible to injury. . . . . .

The inflammation attending sprain of this joint is often very great, and enormous bony enlargements and anchylosis are not unfrequently seen. They embrace the fetlock joint, they frequently include the pastern, but oftener the inflammation and bony enlargement extend up the leg and particularly the posterior part of it to the knee."—*Youatt.*

From the above it may be argued that a particular position in a limb that has a tendency to fusion of bones is more prone to ossific deposits than a part of the same limb that does not possess the same intrinsic tendency to anchylosis.

We see in the horse that fusion of bones has taken place up to the seat of splints.

The exciting causes of splints and spavin are the same, call them concussion. strain, concussion of flexion, &c., &c., they may be summed up in one word, namely, work.

Mr. W. Hunting, in a paper on Hereditary Disease, mentioned that in the Argentine Republic the presence of splints is regarded as proof of English blood. The explanation is that the native horses have lived under more natural conditions. The mares are never worked, and the animals used are not broken in until a somewhat later period of life than is the custom with us.

It is probable that under natural conditions, suppression or fusion of bones in a limb takes place very slowly, and immense periods of time are required to complete the change and fix it as a character of the species. It is almost the rule to find in our old horses the metacarpals united and the metatarsals in the same condition. Some splints develop without any inconvenience to the horse. Bony enlargement of the hock is not always of serious importance. The examination of horses for soundness often reveals the presence of splints, coarse hocks, and spavins, but the frequency with which these conditions are found to exist, is out of all proportion to the number of animals treated for lameness from developing these bony changes. The foregoing statements seem to suggest that the process in many instances is performed gradually and without any great inconvenience to the animal, and that it is frequently unnoticed because lameness is not produced. It may be regarded as the outcome of a natural tendency. Coarse hocks probably being a natural but aborted attempt at bony fusion, and spavin in some instances, the process completed without much detriment resulting.

The special process that in most instances brings about those splints and spavins attended with much lameness, is of an inflammatory nature. Such a process once excited is hard to confine and cantrol, especially when the exciting cause continues to aggravate it. The extension of inflammation in some cases will not stop short of complete anchylosis of a joint like the hock of the horse. In such an instance intrinsic tendency is not responsible for the result, and only partly so for the commencement.

VETERINARY MEDICAL SOCIETIES.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The seventh annual meeting of this Association was held on Thursday, March 25th, at the George Hotel, Grantham, Mr. C. Hartley presiding.

There were also present Mr. B. Freer, Vice-President, of Uppingham; Messrs. W. H. Brooks, Fulbeck; W. G. B. Dickinson, Boston; R. T. Hardy, Sleaford; J. Mackinder, Peterborough; T. J. Marriot, Bottesford; T. A. Rudkin, Grantham; J. Smith, Huntingdon; F. L. Gooch, Hon. Sec., Stamford; and Capt. B. H. Russell, Hon. Treasurer, Grantham.

The minutes of the last meeting were taken as read.

The CHAIRMAN, in alluding to the small attendance said it was no doubt owing to, or at least very materially affected by, the other meetings of similar Associations clashing with it, viz., the North of England, the Border Counties, and Southern Counties. It would have been as well to have taken care to fix their own meeting for some other day.

Capt. RUSSELL remarked that he really thought the date of the holding of the meetings had been fixed, as much as anything, for a personal favour to himself. The proper time was altered to suit his convenience, and the Hon. Sec. had sent out notices accordingly.

The CHAIRMAN proposed that the Secretary be instructed to, in future, acquaint the Secretaries of other Associations of the date of the meeting, leaving them to do likewise, with a view of preventing the meetings clashing.

Capt. RUSSELL seconded, and it was agreed to.

The SECRETARY read letters of apology for non-attendance from Messrs. Thomas Greaves, Manchester; F. W. Wragg, Vice-President, London; Gresswell, Peterborough; Professor Walley, Edinburgh; F. Spencer, Wragby; H. Howse, Lincoln; J. Robinson, Market Deeping; and Professor Williams, Edinburgh.

A letter from Mr. G. Banham of Cambridge, was read, asking for the support of the Association for his election to the Council.

Mr. F. Spencer, of Wragby, sent in his resignation as a member of the Association, on the grounds of the meetings being held at an inconvenient time. On the proposition of Capt. Russell, seconded by the Chairman, it was resolved not to accept Mr. Spencer's resignation until the Secretary had written to that gentleman.

The accounts were next presented by the Hon. Treasurer, Capt. B. H. Russell, J.P. They showed cash in bank, £12 17s. 8d., and a balance in the hands of the Treasurer of £1 13s. 1d. It was agreed unanimously that the accounts should be

passed, and Capt. Russell was thanked for his services.

On the motion of Mr. Mackinder, seconded by Mr. Marriot, it was decided unanimously to expel several members who had failed to comply with the rules by the non-payment of entrance fees and subscriptions to the Association.

Mr. Freer proposed that the next place of meeting should be Boston. This was seconded by the Chairman and agreed to.

The election of officers for the ensuing year was then proceeded with.

Mr. J. MACKINDER had very great pleasure in proposing as President one of the most regular attendants at their meetings—although he had to come from a most difficult place of access—he was sure they would all welcome the name of Mr. Freer, of Uppingham. (Applause.)

The CHAIRMAN seconded. Mr. Mackinder had taken the words out of his mouth he had intended using as to the difficulty Mr. Freer had in getting to the meetings. He had all the more pleasure, therefore, in seconding the motion.

The HON. SECRETARY (Mr. Gooch) warmly supported the nomination of Mr. Freer. He was a good and useful member and regular attendant, and without the least hesitation had supplied the Association with a good paper at short notice. (Hear, hear.) The proposition was put and carried

Mr. FREER, in returning thanks, said he was extremely pleased at the very flattering terms with which his nomination had been seconded and supported. He could only promise them all that, as President of the Association, he would do his very best for its interests, and he hoped they would have good meetings and profitable discussions as a result of some valuable papers which would be read. He was very proud to become President for the ensuing year.

The CHAIRMAN proposed that Captain Russell should be again appointed Hon. Treasurer. He had certainly manipulated the accounts with the ability of a Rothschild. (Laughter.)

The SECRETARY seconded, remarking that in his opinion Captain Russell was the right man in the right place. The motion was carried.

Captain RUSSELL returned thanks, and promised to do the best he could whilst holding the office.

The CHAIRMAN said the next officer they had to elect was one of the hardest working of all in connection with the Association—that was the Hon. Secretary. He begged to propose for re-election Mr. Gooch, who, he was sure they would all heartily agree, had carried out his duties in a most excellent manner. (Hear, hear.)

Mr. FREER seconded and endorsed the sentiments already expressed by the Chairman.

Captain RUSSELL had great pleasure in supporting the nomination. Although he had reason to think that Mr. Gooch intended to resign at the meeting, or at least had intimated that he was desirous of being relieved of the post, he trusted that he might be prevailed upon to continue the office for at least another year. The resolution was then put to the meeting, and carried unanimously.

Mr. GOOCH said he came there with the intention of not being again elected as Hon. Secretary. He had had the privilege of holding the office for two years, and he was strongly of opinion that it would be better if the officers were spread more over the members of the Association. Still, if it was the unanimous wish of the members then present that he should again take office, he could only say that he would accept the post, and would continue to do his best to further the interests of the Association whilst he held it. (Hear, hear.) There was always something cropping up in the way of work that wanted attending to, but he was, as he before remarked, ready to do what he could.

Mr. Mackinder proposed that Mr. Hartley be appointed a Vice-President of the Association. This was seconded by Mr. Rudkin, and agreed to.

Mr. Gooch proposed Mr. Brooks, of Fulbeck, as a Vice-President. The Chairman seconded. Mr. Brooks asked to be excused the office, and the motion was not put.

On the proposition of the Chairman, seconded by Mr. Smith, Mr. Dickinson was unanimously elected a Vice-President.

Captain Russell proposed, and Mr. Dickinson seconded, Mr. J. Smith as Vice-President, and he was unanimously elected.

An interesting and instructive paper was next read by Mr. W. G. B. DICKINSON, F.R.C.V.S., on "The Disease in Lambs and Calves known as Husk or Hoose," as follows:

Mr. President, Vice-President, and Gentlemen,—The subject of my paper has been known by the name of "Hoose" or "Husk" affecting sheep, lambs, calves, and yearling beasts, which is an irritable condition of respiratory organs due to the presence of a parasite known as the *Strongylus filaria*, giving rise to a hoosing and husky cough, in some instances terminating in broncho-pneumonia and death. It is also known to ourselves as phthisis pulmonalis verminalis, and generally as filaria bronchia.

Young animals are more frequently the victims than those of mature age; if the animals are badly fed the parasites soon cause death, whereas those in robust condition very often are enabled to withstand the trouble caused by the parasite without any treatment medicinally.

The symptoms are very noticeable to the careful observer. When hoose is the condition or the lungs are affected, the lambs will be seen coughing spasmodically for several seconds or even minutes; the least effort even of rising from the recumbent position is sufficient to bring about this distressing paroxysmal cough, let alone the fact of the sheep being excited and hurried by the dog.

The eyes present a sunken congested appearance, respiration is accelerated, there is a mucous discharge from nostrils, the wool becomes harsh and dry, losing the natural oily feeling, there is great thirst, and loss of appetite. The temperature is elevated to 107, and sometimes 108, extreme debility, gradual emaciation, and death. If diarrhœa is also present it is reasonable to expect the alimentary canal is also infested with parasites, the *Strongylus contortus*.

The cough is not always the same in character; sometimes moist and other times dry, generally moist, when the respiratory organs are in trouble from a preponderance of mucous being thrown out and expectorated. The dry cough is mostly heard when the stomach and intestines harbour these parasites, and is probably due to the salivary glands secreting very little saliva, hence dryness. Parasitic disease is found to be most abundant in wet seasons, especially in low-lying damp districts, particularly in the fens, not, as some have said, in the marshes, for these districts possess almost an immunity from it, owing doubtless to nutritious pastures and the great quantity of salt which abounds naturally in the soil and herbage. I do not pretend to say the cough is always indicative of the presence of parasites, because I have noticed on several occasions a flock of lambs coughing, purging, and losing flesh, terminating in death, when these symptoms have been caused beyond a doubt by dietetic errors.

Upon opening the stomach we find an absence of parasites and inflammatory patches in the rumen, reticulum, and especially in the abomasum, with a peeling off of the stomach coats and inflammation of the smaller bowels. We find also concretions of maize, cotton cake, and the outer covering of beans in the stomach, showing the highly stimulating and indigestible nature of this artificial food, the using of which is abused, particularly the use of cotton cake, and lambs food containing peas, beans, and maize, the suitability of which as forms of diet for young ruminants I greatly question. There are quantities of fine healthy lambs and calves killed annually from these causes alone. I once saw seventy lambs dead in three days from one flock after being fed in this manner for a week. The symptoms presented in a great measure husk, and I was consulted as to the treatment by the owner on this supposition.

I have, gentlemen, purposely avoided offering any opinion as to the life-history of the parasite in its mode of access to the lungs, as since October last I have furnished Professor Brown with subjects, soil, and worms (earthworms) from different parts of Lincolnshire for investigation. When his valuable researches into these hidden mysteries are complete, publicity will be made to them when we can further debate on what will be an established cause. I can only say that the natural host of the filaria has been found in the common earthworm.

It is found by cutting the earthworm into small segments and squeezing the contents on the slide, adding a drop of water, mixing well and spreading out thinly all over the slide, and by examining it under an inch objective; when probably you will perceive five or six of the mobile filaria.

With regard to the treatment we have two methods to consider, prevention, and elimination of that which causes husk or hoose. Let us first consider prevention, which implies a great deal. As to preventing the parasite gaining access into the lungs it is an impossibility, if the animals are pastured on soil abounding with filaria. The sprinkling of the land with sodium chloride and soot twice during the summer and once in the winter will suffice to destroy not only the parasite but its natural host the earthworm.

All sheep pastures should be well under-drained and kept practically dry. Clearing the lambs from one pasture to the other is a great essential to prevention. Then comes a most important consideration in the selection of stock from which to breed free from any strumous taint. The predisposition to suffering is much lessened in the robust lambs and calves, even if they become the host proper of the filaria. They seem to withstand the attack without being much affected. An addition to the nourishment obtained from the pasture may be made in the provision of trough food, consisting of crushed old oats, linseed, caraway seed and malt cake, and an unlimited supply of rock salt and water.

The curative and eliminative treatment must be chiefly directed towards the reconstruction of a weakened, wasted, animal economy, by increasing the quantity of red corpuscles, which are the great medium of respiration, carrying oxygen from the lungs to the tisshes, thus being the respiratory elements of the body.

It is important for us when prescribing for lambs to remember that the red corpuscles consist chiefly of hæmoglobin, and this particular constituent is very greatly diminished in mares and animals where there is impeded or impaired respiratory function. Elimination in the sense I apply it is that function which will assist the animal in ridding itself of the irritant, which is best accomplished by promoting stimulatory expectoration, by which means the cough is greatly relieved; large quantities of parasites are expectorated, and to a certain extent destroyed if we employ expectorants which alter the chemical composition of the sputa. Sulphur, iodine, aromatic oils, and balsams, for instance, are excreted as such, or as their products, along with an increased flow of mucus. Most of these drugs, especially the aromatic substances, have an antiseptic, deodorant and disinfectant effect on the secretions, also on the surface from which they are given off. We term these disinfectant expectorants. Now, it is well to note that if the sputa be altered chemically the filaria will also be subjected to metamorphosis. The treatment of husk may be summed up in a few words. Reconstruct with hæmotoxic tonics which will improve the quantity and quality of the hæmoglobin. I find either dialysed iron or ammonia citrate of iron answer admirably. In conjunction with these tonics eliminate by the aid of stimulating disinfecting expectorants; squills, aromatic oils, and iodine play their part most satisfactorily. I have tried fumigating with chlorine gas and sulphurous acid, but never met with any permanent benefit accruing from its uses.

While the lambs are suffering I recommend them to be placed in a sheltered crew yard as soon as the grass gets moist, kept up until the sun shines on the following day, having trough food for the night consumption.

The *strongylus contortus* is soon got rid of by the use of p. kousso, ol. felicis, and terebinthine given daily for three or four days fasting, in conjunction with linseed oil or solution of gum tragacanth.

As far as my experience teaches me the intertracheal injection has not been successful in lambs, and if conducted at all I think it should be preceded by a course of tonic treatment. The mortality is generally larger after the injection than before it. The *post-mortems* revealed the cause of death to be lobular pneumonia, an extensive portion of the lung being involved; death taking place early in the attack as only the engorgement state had developed, with no sign of hepatisation. In the smaller bronchi large quantities of brokendown *débris* were discovered undergoing caseation, entirely occluding the bronchial tubes.

Looking at the extremely delicate structure of the lung of a lamb there is no wonder at their inability to admit of pungent liquids being introduced.

Calves do extremely well after injection, and I consider it quite successful, as with only two exceptions I have never seen it fail, but completely cured some very bad cases where recovery seemed almost impossible. The older the calves the sooner is the manifestation of improvement. The treatment may be repeated daily for three or four days, then every third or fourth day. I would suggest, if a lot are to be injected, for two or three syringe points to be employed and constantly dipped in a solution of perchloride of mercury, 1 in 200, thus preventing the formation of abscesses at the point of puncture, causing difficulty in swallowing and serious constitutional disturbances from cystic injection. It has been the custom since time immemorial to insert a seton into the calves when they begin to cough, and indeed many stock-breeders have it done to prevent them coughing. Benefit is certainly derived after they are setoned, which is probably in a measure due to the manner in which they are housed and fed.

In conclusion, gentlemen, if the treatment of lambs is conducted on the principles I have advocated I am confident it will prove successful. It answers equally in young calves, but the older ones require the injection treatment.

In most cases before giving any opinion as to the probable duration of the period required for treatment, if possible make a *postmortem*, when the condition of the lung will give an idea of length of time the parasites have existed.

At the conclusion of the paper, the *Chairman* said it was a very interesting and practical essay. He called npon Mr. Brooks to open the discussion.

Mr. Brooks said he quite coincided with the views of the writer of the paper.

Capt. Russell remarked that he certainly thought their thanks were due to Mr. Dickinson for the very able manner in which he had drawn out the paper. With regard to the host of the filaria, it was thought so far back as 1871 that it was to be attributed to the common house-fly. There was one part of Mr. Dickinson's paper in which reference was made to the peeling of the coats of the stomach of ruminants. He thought it was a common occurence, when making *post-mortem* examinations on that class of animals, for the coats of the stomach to peel off. Asking simply for information, he would put it to the meeting as to whether or not it was the opinion of the members present that if they made a *post-mortem* of a ruminant, say six or eight hours after death, that the stomach would not peel off? With regard to intertracheal injection, he must confess that he had had but a very slight experience. That experience, however, confirmed the view held out by Mr. Dickinson, and so well described by him in his able paper. Alluding to some remarks by Mr. Dickinson, at the conclusion of his reading, upon the prices charged for attendance and medicines by some practitioners, Captain Russell said he found that if he sent out the medicines required the farmer generally administered them to the animals. After some further remarks upon the prices charged for various things, Captain Russell reminded the members that there was now a marked improvement in the fees charged, and the status of the profession altogether since that association and others of a similar character came into existence. In conclusion, he thanked Mr. Dickinson for his very able paper, and expressed the hope that in the course of twelve months some useful revelations would be published as a result of his discovery of the host of the filaria in the common earthworm. (Hear, hear.)

Mr. Mackinder said he had himself read a paper on the same very interesting subject when at college twenty years previously. The main question had always been—where did the parasite come from? These filariæ would, if taken and examined carefully be found to be both oviparous and viviparous. Many of them were found in the grass on certain soils, but not, as Mr. Dickinson had justly remarked, in marshy districts, because of the salt contained therein. He had not had much practice with regard to the intertracheal injections, but quite agreed with Mr. Dickinson on the subject. He always found it to be a much better plan, however, to build up the structure of the animal. There was even then an almost certain after-result, to be looked for in the shape of blackleg. The speaker concluded with quoting the prices he charged for various medicines.

Mr. Freer thought it was a very valuable paper, and was firmly of opinion that there was a very large amount of experience compressed in it. His own practice had led him to the conclusion that if Hoose or Husk were taken in time, and the lambs were put up and given artificial food, they generally got over it. He quoted a case in which this treatment had been successful; upon the subject of the peeling of the coats of the stomach after death, he found that to be the case, more especially where there had been acute inflammation of the various parts. In certain cases, or he might say, in many instances where the disease occurred, it was absolutely necessary to use the intertracheal injection. He gave an instance of having administered the injection to thirty-six animals, and spoke of its beneficial efiects, at the same time handing around his instrument to the assembled members for inspection.

Speaking of setoning, Mr. Freer bore testimony to its beneficial effects. He did not himself use tape, as was usually done, for the operation, but had got an old sugar bag, and took the trouble to pull it thoroughly to pieces, and then plaited up the strands two or three thick.

After a few remarks from the Chairman, in the course of which he stated, that he had used the injection on about ninety lambs in an hour and a half or an hour and three quarters.

Mr. Gooch, the Hon. Sec., said it was very seldom that he had had the pleasure of listening to such a perfectly complete and interesting paper as that which had been read by Mr. Dickinson. Having stated what prices he usually charged for certain drinks, &c., mentioned in the course of the discussion, he went on to remark that in the matter of drinks he generally gave them for two mornings in succession, then ceased the third, and administered another again on the fourth morning. He used tape when setoning.

The Chairman said he himself found horsehair cord very good for the purpose.

Mr. Smith thanked Mr. Dickinson for his paper, both for the matter contained therein, and also for the manner in which he had put it before the meeting. He quite agreed with the writer in his statement that it was far better to keep stock which were suffering from the filaria in dry quarters, and proceeded to name various remedies which he considered best at such periods. He mentioned fees charged in his neighbourhood by himself and others.

Mr. Rudkin was of the same opinion with Mr. Dickinson as to the cause of the disease forming the subject matter of his essay. It was particularly so in that neighbourhood, more so where sheep were run too thick together. He thought a great deal of it was due to turning out the young animals too soon. If the turning out were deferred until there was new feed for the animals they would very often escape the disease altogether. As regarded the lamb food, he was of opinion that some of it did more harm than good. He could, however, recommend Mackinder's Lamb Food, and had found in many instances the young animals did well upon it.

The Chairman then called upon Mr. Dickinson to reply to the discussion.

Mr. Dickinson was warmly applauded on rising. He disclaimed the idea of his being the discoverer of the host of the filaria. Some fifteen or twenty years ago mention was made by Cobbold of the earthworm as being the probable host of the parasite, and this had led him to make the search for it, with the result already described; and even now they only knew the intermediate host of the filaria, but before long he hoped something more definite would be arrived at. As regards eggs or ova, no mention at all was made. He had not discovered any on the slides of the microscope, but simply found the mobile worm, and it would be seen that this was very active indeed when first squeezed upon the slide. He thought that the way in which the parasites were transferred to the beast was from their lodgment underneath the blades of grass. They were taken into the system by the mouth; as to any other means of access or cause he did not believe in it at all. For setons he used hemp and horsehair, which he thought could not be beaten. He recommended the use of a cork on the point of the instrument. He thanked them cordially for the manner in which they had received his paper.

Captain Russell said he had a proposition to make, and that was the best thanks of the meeting be given to Mr. Dickinson for his paper.

Mr. Gooch seconded. He was sure it had been a most instructive essay, and he thought they had learned a great deal from it. The Chairman supported, and the motion was warmly accorded.

Captain Russell said he wished to make a few remarks upon the subject of the elections to the Council of the Royal College of Veterinary Surgeons. There had been for some short time past an understanding amongst the different associations, of which that was one, for a particular member to be nominated each year. That nomination was, according to the mutual understanding arrived at, to receive the support of each of the several associations. The agreement entered into by them was to support one another, and to support the candidate selected by each association every year. They (the Lincolnshire Association) had supported most heartily the candidates who had been selected by other associations; but when it came to their turn last year—when they did him the honour of re-electing him as the candidate—the other associations failed to carry out the agreement entered into. The consequence was that he received 418 votes only. There must be some reason, he thought, why these other associations had not backed up the nomination, and he should never again offer himself for election. He wished to put a name before them, however, and ask for their support, leaving the other associations to do as they pleased in the matter. He should like to ask the meeting how they could reconcile what had been the performances of the other societies mentioned with their previous promises. There was not a doubt but that if the nomination last year had been backed up as it ought to have been, he would have been elected. His politics with respect to the Council were pretty well known. He had nothing more to say on that point, except to request them to most heartily support Mr. F. Blakeway's nomination and membership to the Council of the Royal College of Veterinary Surgeons. After referring to his views with regard to the Council, which he thought should be composed wholly of practical men, Captain Russell concluded by again urging those present to support Mr. Blakeway.

Mr. Mackinder said the last speaker had really taken the work out of his hands. As they were all aware, the Lincolnshire Association combined with other similar associations for the purpose of securing a member to represent them on the Council. They (the Lincolnshire Association) had kept faithfully to their pledge, but it was clearly manifest that the others had not. However, he had good reason to know that if Captain Russell would but allow himself to be again nominated for the post he was quite sure that he would be elected. He had great pleasure in nominating Captain Russell for the Council.

Captain Russell said that he had no intention of standing. That was the fourth time he had been nominated, and there must be a reason—something in the background—and he was under the painful necessity of asking Mr. Mackinder to withdraw his proposition.

Mr. Dickinson said be had expressed great sur-

prise at the non-election of their friend Captain Russell in the previous year. He quite agreed with Mr. Mackinder that he ought to stand again.

The CHAIRMAN ssconded Mr. Mackinder's motion, stating that it was apparently the unanimous wish of the Association that Captain Russell should stand.

The motion having been put and carried,

CAPTAIN RUSSELL, rising, said they really had misunderstood him. He was extremely obliged to Mr. Mackinder and his seconder for their kindness, but he did not intend again to offer himself as a candidate for the Council.

Mr. Mackinder thereupon reluctantly withdrew his motion, and the Chairman said Captain Russell must take the motion then as a vote of confidence in him by the members of the Association.

It was then agreed to support Mr. Blakeway's candidature in the usual manner.

Pathological specimens were exhibited by the members, and Mr. Dickinson had on view a microscope, with some interesting objects.

Votes of thanks to the President and other officers brought the meeting to a close.

Dinner followed, Mr. Hartley occupying the chair, and a pleasant afternoon was spent.

F. L. GOOCH, *Hon. Sec.*

GOVERNMENT VETY. DEPARTMENT.

CONTAGIOUS DISEASES IN ANIMALS.

Reported in Great Britain and Ireland during the week ended May 18th, 1889.

Pleuro-pneumonia.—In Great Britain 7 fresh outbreaks of this disease were reported on during the week; 2 of them were in England, in London and York (W. R.), the other 5 were in Scotland, 2 of them in Edinburgh, 2 in Fife and 1 in Forfar. The total number of cattle attacked was 8, of which 2 were in England and 6 in Scotland. There were 21 healthy cattle slaughtered in Great Britain because they had been exposed to the risk of infection. In Ireland 4 fresh outbreaks occurred; 3 in the North Dublin Union and 1 in the South; there were 8 cattle attacked. and 54 healthy ones which had been in contact with diseased animals were slaughtered.

Anthrax.—In England 4 fresh outbreaks occurred during the week in the counties of Cornwall, Northampton, and Somerset, 9 animals were attacked all of which died, while out of 25 affected animals remaining alive in Dorset from the previous week 23 were killed, 1 died and 1 still remained alive. No cases of Anthrax were reported during the week in Scotland, Wales, or Ireland.

Swine-Fever.—This disease is now increasing, as is always the case about this season of the year; during the week 139 fresh outbreaks were reported on, whereas in the 13 weeks ending March 30th the average was only about 75 per week.

The number of swine attacked was 629, which with some 360 remaining alive from the previous week, made up the number to nearly 1,000 diseased pigs to deal with. Of these 306 were killed, 228 died, 40 recovered, and 418 remained alive, distributed among 25 counties, in all of which the infection will be kept up. In Ireland 7 outbreaks were reported and 16 pigs were attacked, only 1 of which was killed.

Glanders and Farcy.—There were 13 fresh outbreaks of glanders reported on during the week; 10 in London, 2 in Middlesex, and 1 in Edinburgh; 18 horses were attacked, 12 in London, 3 in Middlesex, 1 in Edinburgh, and 2 in Lanarkshire. There were 13 fresh outbreaks of farcy reported, 11 in London, 1 in Essex, and 1 in Middlesex; 29 horses were attacked, 25 of them in London, 1 in Essex, and 3 in Middlesex. No fresh case of either glanders or farcy occurred in Ireland during the week.

Rabies.—In England 6 cases of this disease, all in dogs, were reported: 1 occurred in London, 2 in Middlesex, 1 in Surrey, and 2 in York (W. R.), 5 of these rabid dogs were killed, the other died. In Ireland 13 fresh cases were reported on; 6 of them in dogs, in the counties of Armagh, Cavan, Fermanagh, Clare, Cork, and Sligo; 6 were in cattle, in counties Cavan, Fermanagh, Cork, and Sligo; and 1 sheep in Cavan was affected.

EXTRACTS.

THE DISHORNING CASE.

The Royal Society for the Prevention of Cruelty to Animals have published the whole of this case, from the proceedings before the Magistrates in Norfolk to the written judgment delivered by the Court of Appeal.

The Magistrates dismissed the summons, but stated a case for the opinion of the Judges of the High Court of Justice.

The following are the exact words of the findings of the Justices and of their questions to the Judges:—

We were of opinion that the Appellant had proved that the dishorning of the cattle in the cases had caused considerable pain and suffering to the animals.

We were satisfied that the respondent had exercised ordinary care in the performance of the operation.

We considered it as proved that the practice of dishorning cattle had been carried on in a part of the County of Norfolk to a considerable extent during the past 3 or 4 years.

Also that the results attained by dishorning could not be attained by merely tipping the horns as suggested by some of the witnesses called by the Appellant.

We did not believe that the Respondent had any cruel intention in performing the operation, but that he acted under the honest belief that it was for the benefit of the animals themselves as well as for the benefit of himself as a grazier, and that the ob-

ject he had in view could not be attained by any other known method.

We accordingiy dismissed the information laid against him, without costs.

We were of opinion that upon the evidence adduced by the Appellant it is advisable in dishorning cattle that the operations should be performed at an early age.

The question for the opinion of this Honourable Court is—

Is the operation of dishorning Cattle as proved to have been performed in this case justifiable having regard to Section 2 of 12 & 13 Vic., c. 92 ?

If not—the Case is to be remitted to us with the opinion of the Court.

If it is—the dismissal is to stand.

Given under our hands at Blofield, in the County of Norfolk, etc.

The Appeal was heard in the Queen's Bench Division before the Lord Chief Justice and Mr. Justice Hawkins when Mr. Lumley Smith, Q.C. and Mr. R. F. Colam appeared for the appellant, and Mr. Winch, Q.C. for the respondent.

The decision of the Judges derives additional importance from the fact that it differs from the judgments pronounced by Courts of Appeal in Ireland and in Scotland on the same subject and from judgments in England upon similar subjects. It is likely also to have very considerable affect upon the action of Magistrates in deciding many other cases of "cruelty" to animals.

The importance of the case is our excuse for the following extracts from the judgment.

The Lord Chief Justice: Having had the advantage of reading what my learned brother Hawkins has written upon this case, with the whole of which, both in substance and in expression, I entirely concur, and to which I refer for a statement of the facts, I should not have written anything myself, but for the importance of the case and the fact that we appear, and perhaps more than appear, to be differing from several authorities greatly to be respected by any judge sitting in this place.

The question submitted to the Court is (and to this I call particular attention) whether the operation of dishorning cattle, as proved to have been performed in this case, is justifiable under section 2 of 12 & 13 Vic c. 92.

Now it is important to settle in one's mind, as far as it can be settled clearly, what is cruelty, and what is cruelly to abuse or torture an animal within the meaning of the statute. The mere infliction of pain, even of extreme pain, is manifestly not by itself sufficient. Men constantly inflict great pain on one another and upon the brute creation either for reasons of benificence, as in surgery or medicine, or under sanctions which warrant its infliction as in war or punishment. It is further lawful to inflict it if it is reasonably necessary, a phrase vague no doubt, but with which in many branches of the law every lawyer is familiar.

This involves the consideration of what "necessary" and "necessity" mean in this regard. It is difficult to define these words from the positive side, but we may perhaps approach a definition from the negative. There is manifestly no "necessity," and it is not "necessary" to sell beasts for 40s. more than could otherwise be obtained for them, nor to pack away a few more beasts in a farmyard, or a railway truck, than could otherwise be packed: nor to prevent a rare and occasional accident from one unruly or mischievous beast injuring others. These things may be convenient and profitable to the owner of cattle, but they cannot with any show of reason be called necessary.

That without which an animal cannot attain its full development or be fitted for its ordinary use, may fairly come within the term "necessary," and if it is something to be done to the animal it may fairly and properly be done. What is necessary therefore within these limits, I should be opinion may be done, even though it causes pain and extreme pain, but only such pain as is reasonably necessary to effect the result aimed at. Necessary pain, therefore, thus limited, we may fairly inflict on those animals over which we have received, or at all events have assumed, dominion. But I adopt the language of Mr. Justice Wightman, as, for the purposes of interpreting the statute, complete and satisfactory; and his language is that the cruelty intended by the statute is the unnecessary abuse of the animal.

"Abuse of the animal" means substantial pain inflicted upon it; and "unnecessary" means that it is inflicted without necessity, under which word, as I have already said, I should include adequate and reasonable objects.

Applying these observations to the evidence in this case, there can be no difficulty in arriving at a determination. In the first place, as to necessity. it is found in the case that for twenty years and more, the practice of dishorning cattle has been entirely disused throughout England and Wales. It has not been thought necessary in all that time to perform it on any of the millions of cattle which the farmers of England of all sorts have reared, and sold, or eaten. We learn further from a case of Renton *v* Wilson, a case decided in the Court of Sessions in Scotland, (4th Series, vol. 15, p. 57), that except in three counties, the counties of Fife, Forfar, and Kincardine, it is unknown in Scotland too. It appears that in Ireland it is more common. It is incredible to me at least that an operation, for many years wholly discontinued in England and Wales and with the above exception in Scotland also, should certainly have become necessary so as to except it, if it be cruel, for the mischiefs against which the Statute is directed. It was not unknown, but it has been discontinued, which is a different thing. In the evidence before us no ground for it has been suggested, except that the animals generally, after dishorning, sell for more money; that more of them can be packed into a farm yard

or a railway truck, and that dishorned animals cannot gore, but can only butt their fellows.

I do not doubt that dishorned beasts sell for rather more. I do not doubt that the same space will contain more cattle dishorned than horned; that the practice disguises the breed to a superficial and unskilled observer, and deceives or may deceive the butcher; but I emphatically deny any or all of these reasons of necessity or to justify the operation. Necessity to form an excuse under the statute does not mean, as I have already explained, simply that the effect of an operation cannot be otherwise secured. There must be proportion between the object and the means. Mutilation of horses and bulls is necessary, and if properly performed, undoubtedly lawful, because without it, at least in this country, the animals could not be kept at all, But to put thousands of cows and oxen to the hideous torments described in this evidence, in order to put a few more pounds into the pockets of their owners, is an instance of such utter disproportion between means and objects as to render the practice as described here not only barbarous and inhuman but I think clearly unlawful also.

It remains only to say a word as to the cases from which we appear to be differing. Of the Scotch case and the other Irish case to which I have already referred I desire only to say this. For the Courts and for the Judges who composed the courts which decided them, no English lawyer can feel anything but unfeigned respect. We have not the evidence before them set out in detail, and I will not presume to say that if I had been in their place I might not arrived at the same conclusion which they did upon that evidence. But I take the freedom to doubt altogether whether if they had heard or read the evidence given before us they could possibly have arrived at any other conclusion than that at which my learned Brother and I arrived in this case. I cannot and I do not think that on *this* evidence Lord Chief Justice Morris would have thought "the pain inflicted to be very temporary" or "the object reasonable and adequate"; or that Lord Young in the Scotch case would have said (at page 89), "that the Statute did not in such a case as this interfere with the judgment of those who are pursuing their own affairs to the best of their judgment as the farmers of Forfar and Fife are doing here, however much they may be mistaken in the judgment of others."

For these reasons I am clearly of opinion that in this case the Magistrates ought to have convicted, and the case must be remitted to them to do with it according to what we hold to be the law of the land.

Mr. Justice Hawkins: In this case I should have been quite content to express my cordial concurrence in the judgment which my Lord has just pronounced, but the great importance of it to a large community, makes me think that I ought to express my own independent views as to it.

Mr. Winch for the Respondent has rightly asked us to consider and dispose of the case, not upon any narrow or technical grounds, but upon the broad question whether the practice of dishorning for the purposes stated in the case is lawful or not, so that our decision may be a guide to all who are interested in the subject. We have accordingly so considered it.

To support a conviction, then, two things must be proved; first, that the pain or suffering has been inflicted in fact; and, secondly, that it was inflicted cruelly—that is without necessity, or, in other words, without good reason.

What amounts to a necessity, or good reason for inflicting suffering upon animals protected by the statute, is hardly capable of satisfactory definition. Each case in which the question arises must depend upon a variety of circumstances. The amount of pain caused, the intensity and duration of the suffering, and the object sought to be attained must always be essential elements for consideration. To attain one object the infliction of more pain may be justified than would be ever tolerated to secure another.

It would be unreasonable to claim for domestic animals designed for man's use, absolute immunity from all suffering at the hand of man, and it would not be contended by the strongest advocates of the cause of humanity, that pain to some extent may not be reasonably inflicted, with a view to save an animal's life, to cure it from sickness or injury, or to fit it to fulfil that part for which by common consent it is designed. In each case however the beneficial or useful end sought to be attained must be reasonably proportionate to the extent of the suffering caused, and in no case can substantial suffering be inflicted unless necessity for its infliction can be reasonably said to exist. To save the life of an animal, to restore it to health when suffering from painful disorder, violent measures causing much misery to it may often times be matter of necessity. A wounded or diseased limb or an injured eye may require surgical treatment inseparable from pain. These are illustrations of cases in which the pain caused is for the direct benefit of the animal itself. As an illustration of a class of cases in which some degree of apparent ill-treatment may be justified in fitting an animal for its legitimate use, I may point to a horse, which, though designed for draught and riding purposes, is not, in its untutored state so fitted. To prevent it from being unruly and unsafe it requires to be broken, sometimes with a degree of severity occasioning pain, which, without such necessity, would be utterly unjustifiable. Even in these cases the good to be attained must be reasonably proportionate to the suffering caused. Castration of young horses and of the male young of other animals intended for use or for food, is we all know largely practised for the purpose of rendering them more docile and less dangerous to use, and more adapted for food than uncastrated males commonly are. But I am far from saying that in my opinion castration, which is a painful operation though not of long duration, is in all cases justifiable. I could, were it necessary to do so, suggest many circumstances in which it would be utterly unreasonable and cause unnecessary pain.

Docking is another painful operation which no

doubt may occasionally be justified, but I have a very strong opinion against allowing fashion or the whim of an individual, or any number of individuals to afford justification for such painful mutilation and disfigurement. I have said enough to indicate my views, namely, that the legality of a painful operation must be governed by the necessity for it, and even where a desirable and legitimate object is sought to be attained the magnitude of the operation, and the pain caused thereby, must not so far outbalance the importance of the end as to make it clear to any reasonable person that it is preferable that the object should be abandoned rather than disproportionate suffering should be inflicted.

But cases were cited to us as authorities that no operation, however painful, is cruelty within the meaning of the statute if the purposes for which the act is done is to make the animal more serviceable for the use of man. This is the dictum of Baron Cleasby in delivering his judgment in Murphy *v* Manning 2, Exchequer Division, page 314. In using this language that learned and very humane judge ought not to have been taken to have spoken having reference to such circumstances as are now before us, but only generally with respect to certain minor operations which though painful cannot be placed in the same category as this. If the learned Baron did intend his language to be interpreted as contended for by the Respondents, then I must respectfully decline to adopt that view. Many instances might be put in which at a cost of extreme suffering to the animal, it might be rendered more serviceable for the use of man by means of an operation which it is simply impossible to suppose that any legislature would sanction. What would be said of a man who sewed up the eyelids of a sheep or who cut the hoofs of his cattle to the quick to keep them from moving about as nature dictated in order that they should more quickly fatten in his fields to his profit?

In Callaghan and Another, Appellants, *v* The Society for the Prevention of Cruelty to Animals, Respondents. Judgment was pronounced by Chief Justice Morris and Justices Harrison and Murphy. This case is of course very strongly relied upon by the Respondents, the facts and arguments being substantially the same as in this case. Chief Justice Morris in delivering his Judgment said "Looking at the suffering in reference to the object with which it is inflicted as found by the Magistrates, it cannot in my opinion be considered unnecessary, for the object is reasonable and adequate;" and Harrison Justice also treated the practice as a reasonable one, and necessary for the proper carrying on of the system of straw yard winter feeding; whilst Murphy Justice said "The pain caused to the animal cannot be said to be an unnecessary abuse of the animal that is reared up, tended and fed with the object of having it as soon as possible made ready for slaughter, if the operation by which the pain is caused enables the owners to attain this object either more expeditiously or more cheaply."

With the views expressed by these learned judges I am unable to concur. The case of Renton *v* Wilson in 5 Court of Sessions Cases, page 84, argued before Lords Young, McLaren, and Rutherford Clarke, is the last authority I think it necessary to mention. That also was a case of cruelty by dishorning. There again the practice was upheld; not, however, upon the ground that the operation was not painful, or that it was necessary, but upon the ground, as expressed by Lord Young, that the statute does not interfere with human conduct, or with the conduct of those who are pursuing their own affairs to the best of their judgment, however much they may be mistaken in the judgment of others; and according to the view of Lord McLaren, the operation was a customary operation through a considerable district of the country, and performed with a view to a rational purpose and under the belief that it was necessary for the well-being and control of the animals. I cannot give my assent to this decision nor recognise in these views anything which excuses the infliction of such extreme suffering. With all respect to the opinions of the learned Judges by whom these two cases of Lewis *v* Fermor and Renton *v* Wilson were decided, although I am not prepared to deny that an honest belief, based on reasonable grounds, in the existence of circumstances which if proved would justify a painful operation, would afford him a defence against a charge of cruelty, even though the circumstances relied upon were not as he believed them to be; I do dissent from any notion that a mistaken belief, however honest, that the law justified a painful operation when in truth it did no such thing, would operate as an excuse at all except perhaps in mitigation of punishment.

If the law were that any man or any body of men could in his or their own interests or for his or their pecuniary benefit cause torture, and suffering to animals without legitimate reason, and could when charged with cruelty excuse himself or themselves upon the ground that he or they honestly believed the law justified them, though in fact it did not, it is difficult to see the limits to which such a principle might not be pushed; and the creatures it is man's duty to protect from abuse would oftentimes be the suffering victims of gross ignorance and cupidity.

From what I have already said and for the reasons I have given it follows that in my opinion the practice of dishorning is a cruel, unreasonable and unnecessary abuse of the animals operated on, and therefore, is illegal and ought to be suppressed; and that the Magistrates ought to have convicted the Respondent.

EXPERIMENTS ON LIVING ANIMALS.

Mr. Erichsen's report upon vivisection during the past year bears ample testimony to the care and exactitude with which the regulations of the Act of 1876 are habitually carried out by all concerned. The administration of the Act is a matter entirely distinct from any question as to its policy, and although we are by no means prepared to think that it was wisely conceived or well devised, we are on that account the more gratified to find that by the

hearty co-operation of the experimenters it is being rendered effective of some measure of benefit to the animals which it is intended to protect. Thus Mr. Erichsen says: "It is a matter of great satisfaction to find, by the reports furnished to me this year, that the cases in which pain has unavoidably been inflicted were far fewer in number than in preceding years. As may be seen by Table III., only eight experiments were reported as having been attended by pain, the animals in these cases being rabbits, guinea-pigs, mice, and frogs. In the attainment of this gratifying result every assistance has been afforded by the licensees, who, I have reason to believe, spare no trouble, by the use of anæsthetics often applied locally in addition to their internal administration, and by the employment of strict antiseptic precautions, to secure freedom from suffering in the animals experimented upon." These remarks are no doubt intended to express the Inspector's sense of the scrupulous care to avoid as far as possible, the infliction of pain which still distinguishes our physiologists and pathologists when experimenting upon living subjects, as it always has distinguished them heretofore. But it seems to us that it would be more satisfactory to substitute for observations of this kind some indication of the important results which the vivisection reported upon has achieved. In this respect the form of this report leaves much to be desired. The public are informed that 1069 experiments have been performed, and that of these 231 have been directed to the elucidation of physiological questions, 499 of pathological, and 339 of therapeutical. But such generalised statements convey no information, and, as the results of research in these directions are for the most part wholly unknown to those to whom these figures and comments are addressed, it can hardly be otherwise than they will produce an unfavorable impression. Much of the work is, no doubt, of a kind the value and beneficence of which cannot be appreciated by the public, and therein lies a real difficulty, which it will tax great ingenuity to overcome.—*Lancet.*

NOTES AND NEWS.

Lancashire Veterinary Medical Association.

The usual quarterly meeting of the above Association will be held at the Medical Institute, Hope Street, Liverpool, on Wednesday, June 12th, when Professor Lewis of Edinburgh will read a paper on "Lymphadenoma." Tea at the Adelphi Hotel at 5 o'clock.—ARTHUR LEATHER, *Hon. Sec.*

A Veterinary School for Simla.

It is now proposed to have a Veterinary School at Simla instead of a mere course of lectures; and if this idea can be carried out, much more thorough instruction will be available than under the lecture system. Mr. Cox, who had very successful classes for both commissioned and non-commissioned officers at Umballa last cold season, will no doubt lend a helping hand.

Serious Accident to a Veterinary Surgeon.

On Friday last, Mr. Harry Gelsthorpe, veterinary surgeon, Darlington, met with a nasty accident. He had ridden out to Halnaby, and on returning a few minutes after one o'clock his horse, a young, spirited animal, stumbled and fell upon him. With great difficulty Mr. Gelsthorpe extricated himself, and found that he had sustained a fracture of the right thigh. He crawled along the road about a hundred yards to a gate, and hanging on to this managed to attract the attention of some persons in the locality, who had him conveyed home.

The Etiology of Tetanus.

At the Paris Academy of Medicine, M. Goubaux, formerly director of the Veterinary School of Alfort, vigorously combated the theory put forth by M. Verneuil, as to the equine or telluric origin of the disease:—stating that he did not believe in the contagiousness of tetanus in man, for at Alfort there has been, since 1863, only one death from tetanus in a student, and yet these students are constantly in contact with tetanic horses. Finally, M. Goubaux stated that he had never seen a single case of tetanus by contagion at the hospital, although after the death of an animal from tetanus another is immediately placed in its box. He concluded by repeating that he could not admit that tetanus in domestic animals was exclusively the result of telluric action and of equine contagion.

Birds as Carriers of the Contagion of Diphtheria.

Dr. Bild, who has been in practice for the last thirty years in the principal town of an island of Greece—the Isle of Skiatos,—had never seen in that place a case of Diphtheria. In June, 1884, however, Dr. Paulinis was called to see seven children who were affected at the same time with diphtheria: five died. The epidemic invaded the whole town, and in five months 125 persons were affected, of whom thirty-six died. In investigating the cause of the sudden appearance of this malady, it was ascertained that in the quarter where the children had been affected, there was a poultry-yard containing turkeys that had recently arrived by boat from Salonica. All these turkeys presented false membranes on the soft palate, and all perished except one; the latter was attacked by paralysis of the feet, which completely prevented its walking.—*Journal de la Santé.*

In commenting on this observation, Dr Vallin remarked that it had already been shown that domestic fowls can transmit diphtheria to man. He would therefore recommend that rain-water falling from the roofs of houses should be diverted as far as possible from wells, as it contains the dejections of birds of all sorts which rest on the roofs. It is a popular idea that water from roofs is excellent. It is at least charged with putrescible excrementitious matter, which infects the wells. It has never been proved that this water does not convey the seeds of diphtheria, or that the fowls of the poultry-yard do not sow the seeds of this disease on the dung-heaps of farms.

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Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

THE AGE OF A SPAVIN.

SIR,

I should be obliged if you or some of your readers would assist me to answer these questions:—1. What conditions of hock may be accepted as throwing any light on the time a Spavin has existed? 2. What is the shortest possible time for all lameness to depart from a recently developed Spavin, leaving the hock cool and clean, with no sub-cutaneous effusion? 3. Is it possible for a large diffused bone Spavin to form, develope, be completed, and lameness to cease—all in two months?

Yours obediently,
'TARSUS.'

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